

# OHIO TECHNICAL STANDARD AND SPECIFICATIONS

## Wildlife Wetland Habitat Management (Acres) (644)

### STANDARD

#### Definition

Retaining, creating, or managing wetland habitat for wildlife.

#### Purpose

To keep, make, or improve habitat for waterfowl, furbearers, or other wildlife.

#### Conditions Where Practice Applies

On wetland and areas where water can be impounded or regulated by diking, ditching, or flooding.

#### Planning Considerations

This standard and specification describes the minimum habitat requirements and management recommendations for most wetland species, including waterfowl and furbearers. It does not contain specific habitat requirements or life history information for particular wildlife species. Management information for individual species or groups of species may be found in the Technical Guide Reference File—Biology Section. The SCS biologist or Ohio Department of Natural Resources private lands biologist can also provide specific information.

An adequate and dependable source of water must be available for many of the management options described below to be successful. Other factors to be considered include:

1. Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.
2. Effects on the volume of downstream flow or charge to aquifers that might cause undesirable environmental, social or economic effects.
3. Potential for change in plant growth and transpiration because of changes in the volume of soil water.
4. Effects on erosion and the movement of sediment and soluble or sediment attached substances that would be carried in runoff.
5. Effects on nutrients and pesticides on surface and ground water quality.
6. Effects on the movement of dissolved substances below the root zone and to ground water.
7. Effects on temperatures of water resources to allow for the enhancement or protection of aquatic and wildlife communities.
8. Effects on wetlands or water—related wildlife habitats.

Techniques of wetland development and management listed in this standard will affect both the desired species and other species inhabiting wetlands. SCS personnel must evaluate the overall effect of the proposed actions on other wetland wildlife and wetland values in accordance with SCS wetland policy.

## SPECIFICATIONS

### I. Preservation of Existing Wetland.

- A. Provide protection from harmful land use practices (e.g. draining, filling, excessive sediment trapping, excessive grazing, etc.)
- B. Avoid disturbance of unique wetland types (e.g. bogs, fens) and wetland areas known to harbor threatened or endangered species.
- C. Ensure that the landowner or person responsible for construction is aware of the need to comply with section 404 requirements, if applicable.
- D. Designate the protected area on a land use map and in the conservation plan as “wildlife land”.

### II. Development/Management for General Wetland Wildlife.

Wetlands are dynamic systems driven by hydrology which varies annually, seasonally and spatially within the wetland system. The vegetation and wildlife found in a wetland will reflect this and be equally dynamic and changing. Wetland development or management should attempt to replicate this variability or provide a setting in which natural hydrologic change can occur.

- A. Permanently inundated wetlands--these areas have water on the surface on at least part of the wetland throughout the year.
  - 1. Wetland areas shall be at least 0.1 acre in size.
  - 2. Water depths may vary from 6 feet deep to exposed mudflats. Deep areas should have a minimum depth of 3 feet (at low water) over 20% of the area. Shallow areas should provide a variety of depths between 6 inches and 36 inches. Deep areas should be interspersed with shallow areas to provide maximum habitat diversity.
  - 3. Variation may be provided by the development or retention of wetlands with different depths or vegetation type in close proximity; this is often called a wetland complex.
  - 4. Side slopes should be variable, ranging from 8:1 to 16:1. This will help to provide variable water depths and plant communities. Irregular shorelines, peninsulas and irregular bottom topography (submerged ridges or islands) will also provide

diversity to the area.

5. Adequate erosion control to protect the development will be carried out in accordance with the applicable standard.
  6. Livestock will be excluded from the wetland and a buffer area at least 50 feet in width.
  7. If needed, vegetation in the wetland and buffer strip may be mowed to control succession or benefit certain wildlife. Generally, mowing should be done from July 1 to August 15 to avoid ground-nesting species and allow adequate re-growth in the fall. If mowing must be done during the nesting period, only part of the area should be mowed.
  8. A water control structure or embankment may be necessary, particularly if the landowner is interested in actively managing water levels. Applicable engineering standards and specifications will be followed.
- B. Temporarily inundated wetlands--these areas typically are inundated for only a portion of the year. When surface water is absent, the water table is often near the land surface.
1. The timing and duration of the inundation may be controlled by the landowner. This may be done to assure flooding at certain times of the year, thereby influencing the plant communities present.
    - a. Embankments and/or water control structures may be necessary for the management of temporary shallow water wetlands. These will conform to applicable engineering standards and specifications.
    - b. There shall be adequate water available from runoff or groundwater to flood the wetland when desired.
    - c. Water control structures shall be sized to allow the normal summer flow to pass if certain tree species are to grow in the inundated area. The capability to drain the entire site in one week is very important to prevent damage to trees during the growing season.
  2. The timing and duration may be left to be controlled by naturally occurring hydrologic events. Smartweeds, sedges and rushes will be found early in the growing season, but may be replaced by grasses and forbs as the sites dry out.
    - a. Water level control is not necessary for managing these areas. Non—depressional areas may need embankments to confine water. If needed, these will conform to applicable engineering standards and specifications.
    - b. Mowing may be used to control succession of woody vegetation. This will

generally be done between July 1 and August 15.

- c. There shall be adequate water available from runoff or groundwater to flood the wetland during years of normal precipitation.

### III. Development/Management for Waterfowl

Management will be aimed at providing adequate habitat (food, cover, etc.) for resident and/or migratory waterfowl. ODNR private lands biologists should be contacted by landowners interested in waterfowl production for more specific management plans

- A. Construction of wetlands shall follow the specifications given under General Wetland Wildlife with the following additions:
  1. The range of depths provided should be approximately 20% 3 to 4 feet deep, 30% 1.5 to 3 feet deep, 30% 0.5 to 1.5 feet deep and 20% exposed mud flats.
  2. Elevated nesting areas may be constructed both around the edge and within the wetland area.
    - a. To avoid concentrated predation problems, islands within the wetland which are higher than water level should be constructed only if the wetland is larger than 5 acres.
    - b. Islands should be at least 20 feet wide, 2 feet above water level and have side slopes from 5:1 to 8:1.
- B. Water level manipulation. Managing water levels may be used to control unwanted plants, encourage desirable plants, obtain the desired vegetated-to-open water ratio or provide standing water at appropriate times to attract waterfowl. Best results will be obtained when the land user has a definite water management scheme planned and has a working knowledge of the complexities of operating a system for waterfowl production.
  1. Embankments and/or water control structures may be necessary for the management of water levels. These will conform to applicable engineering standards and specifications.
  2. There shall be adequate water available to flood the wetland when desired.
  3. Where more than one individual wetland is being managed, stagger the timing of manipulation to increase diversity.
  4. To encourage desirable plant-open water ratios (50:50) in permanently inundated wetlands, the following management scheme should be used:
    - Step 1. Provide a gradual drawdown in late April through May.
    - Step 2. Gradually reflood the area after drawdown is complete; area should be reflooded to a depth of 6 to 18 inches by October.

- Step 3. Repeat steps 1 and 2 for a second year.
- Step 4. Maintain water levels that provide approximately 50:50 ratio of submergent and emergent vegetation. This should be maintained for as long as possible.
- Step 5. Repeat the process starting at step 1 when ratios begin to significantly vary from 50:50, single species plant communities develop or undesirable plant species begin to establish themselves.
5. Moist soil management is used primarily to encourage the growth of annual plants having hit waterfowl food value. It also provides temporary habitat for shorebirds. The following guidelines shall be followed:
- a. Gradual drawdown should take place in April or May and be completed by June 1. The water level should be held no lower than 6 inches below the ground level, if possible. Areas that had not been flooded over winter may plowed in spring or early summer to promote germination.
  - b. Moist soil exposed by the drawdown may be tilled in early summer to encourage the growth of annual plants. Normally, plants such as smartweeds, rice cutgrass or barnyard grass will germinate even without tillage.
  - c. Small grains may be planted as an alternative to allowing natural moist soil vegetation establishment. Recommended species and rates are Japanese millet (15-30 lbs./acre), grain sorghum (5-15 lbs./acre) or buckwheat (36-48 lbs./acre).
  - d. Gradually reflood the area beginning in September so that maximum depths are reached in October to coincide with fall migration. Maximum depth inches tall; however the water should not exceed one—third the height of the plants.
  - e. If possible, maintain maximum water depth (12 to 18 inches) through the winter until time for drawdown the following spring.
6. Greentree reservoirs are flooded timber areas that provide loafing and feeding sites for migratory waterfowl and Ohio's wintering mallard, black and wood duck populations.
- a. Sites selected shall be bottomland hardwood sites composed of species such as swamp white oak, pin oak, American hornbeam, sweetgum or blackgum that are mature enough to produce seeds or nuts.
  - b. Flood the area in October as the leaves begin to turn color. The area should be flooded to a depth of 1 to 12 inches. The area should be dewatered in February or March as tree growth begins and buds begin to swell.
  - c. Structures shall be sized to allow the normal summer flow to pass and drain

the entire wetland area within one week. This is necessary to prevent damage to the trees during the growing season.

- d. Small openings may be scattered throughout the area to increase diversity of cover types. Additional woodland treatment may be needed to protect the resource base. Follow the applicable standard and specification.
- C. Vegetation surrounding the wetland shall be managed to increase the value of the wetland for waterfowl. This vegetation provides nesting cover, filters silt and other pollutants from runoff and provides a windbreak.
1. Permanent vegetation shall be maintained in an area at least 50 feet wide around the wetland. This may be planted or allowed to vegetate naturally. This area shall be protected from excessive livestock grazing.
  2. If mowing is desired to prevent woody succession, it should be done between July 1 and August 15 depending on vegetation types and waterfowl species to be managed.
  3. Appendix II lists recommended species and establishment procedures for areas around the wetland and elevated nesting islands. The warm season grasses, reed canarygrass or pure alfalfa seedings are not to be used on emergency spillways.
  4. Windbreaks may be established on the windward side to reduce wave action on open water within the wetland. This is especially critical where wetlands are located in flat, open areas. The appropriate standard and specification shall be followed.
- D. Artificial nesting or loafing structures may be installed to supplement natural sites.
1. Logs, wooden structures, rock piles or straw bales placed in the water will provide loafing areas. Anchor all floating materials.
  2. Details on the construction and placement of artificial nesting structures for Canada geese, wood ducks or mallards may be obtained from listed references, SCS biologist or ODNR private lands biologists.

#### IV Development and Management for Furbearers

Three factors are important in providing high quality habitat for muskrats: (1) maintaining a ratio of approximately 80% emergent vegetation to 20% open water, (2) providing deep enough water in winter to prevent freeze—out and (3) maintaining large quantities of preferred foods (cattails, arrowhead, burreed and bulrushes).

- A. The ability to control water levels is valuable to managing all three habitat factors.
1. Water levels should be held at 6 to 20 inches during the growing season, After

September 1, raise water levels to 36 inches to prevent winter freeze out.

2. Embankments and water control structures shall be designed and constructed according to applicable standards and specifications.
- B. When control of the water level is not possible, diking or excavation shall provide 36 inches of water over approximately 20% of the area.
1. Shallow pits may be constructed in new or existing wetlands.
    - a. When pits are constructed in existing wetlands, excavated material shall be removed from the wetland, where possible.
    - b. Minimum size for the pit shall be 250 square feet. Half of the pit should be at least 3 feet deep and have sideslopes of 3:1 or flatter.
  2. Level ditches may be constructed in new or existing wetlands.
    - a. When level ditches are constructed in existing wetlands, excavated material shall be removed from the wetland, where possible.
    - b. Limit construction of level ditches to soils of a sandy loam or heavier texture. Texture should be consistent with the depth of the ditch.
    - c. Design for a useful life of at least 10 years.
      - i. Width — minimum 4 feet bottom and 12 feet top
      - ii. Depth — 4 feet
      - iii. Spacing — parallel ditches will be installed at 100—400 foot spacings. Optimum spacing is 200 feet.
      - iv. Layout — ditches should be constructed at right angles to the prevailing wind and zigzagged 10 to 30 degrees every 300 feet for additional wind protection.

## References

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